

## **2. PORTSMOUTH DUE DILIGENCE REVIEW**

The Portsmouth Due Diligence Review covers the Facility Specific Descriptions and Documentation completed for the final 14 facilities designated for return to DOE.

### **2.1 X-105 ELECTRONIC MAINTENANCE BUILDING**

#### **2.1.1 Facility Description**

The X-105 Electronic Maintenance Building (see Fig. 2.1) is an 11,100-ft<sup>2</sup> steel-framed "Butler Type" facility with a concrete floor that was previously used for the maintenance of electronic equipment. The building was constructed in 1957 and was the process pipe fabrication facility for the pipe contractor during the construction phase of the plant. The X-105 now serves as a general storage area with several offices set-aside for project and engineering personnel. The area previously used as a computer room still has the raised "computer type" floor, but is now used as a storage area for lighting fixtures. The building is located in Quadrant II at N 9600, E 9700 (see Fig. 2.2).

#### **2.1.2 Facility Photograph**



**Fig. 2.1 X-105 Electronic Maintenance Building exterior looking east.**

#### 2.1.4 Summary of Current Conditions

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with polychlorinated biphenyl (PCB) concentrations greater than 500 parts per million (ppm). No visible evidence of this was present at the facility. Room 10 is extremely cluttered with miscellaneous cleaning supplies and equipment; Room 12 has ceiling tiles with water damage from a roof leak; Room 125 contains miscellaneous electrical parts and a broken ceiling tile on the floor which may contain asbestos containing materials; and Room 17 contains asbestos abatement material, two flammable storage cabinets, asbestos contaminated equipment, an asbestos abatement shower trailer, and asbestos control lockers.

There is no current imminent danger at the X-105 and the facility does not pose a significant imminent hazard to health or safety, or pose a risk of releasing contaminants to the environment. However, if the asbestos containing materials are disturbed they could pose significant health hazard. No significant necessary safety devices appear to be missing. The facility does not contain potential significant health hazards from biological conditions or animal intrusion and does not contain equipment that requires safety inspections. There are no areas at the X-105 where access control appears to be inadequate.

Facility fire protection inspections were conducted on December 19, 1972, and again on March 19, 2001. Both inspection reports are on file at the USEC Fire Department. No fire hazards were identified at the X-105 during these inspections. The X-105 has fire extinguishers that are on the monthly inspection program and the USEC Fire Department conducted a sprinkler system inspection on April 24, 2001. This inspection is also on file at the USEC Fire Department.

The X-105 does not appear to be subject to flooding or significant water leaks; however, there are signs of water damage to the ceiling in many areas. Wastewater from the restroom, drinking fountain, and the restroom drains is discharged to the sanitary sewage system.

There are no chemicals stored in the X-105 that appear to be stored in an unsafe condition, could pose potential vulnerabilities by their intrinsic properties, or have the potential to change over time due to the evaporation or introduction of water. No material safety data sheets (MSDS) are maintained at the X-105.

A review of the authorization basis documents itemized in the Facility Information Source Reference List verified that no fissile material operations are taking place in this facility and have probably never taken place in this facility. One dry active waste (DAW) (USEC NCSA-PLANT018) container was found in the east end of the building. The facility custodian stated that this DAW container would be removed prior to facility turnover. Therefore, it is assumed that there will not be any DAW containers in this facility at the time of turnover. The facility was slaved to the Criticality Accident Alarm System (CAAS) (Table 3.6.2-1, Safety Analysis Report (SAR)-PORTS), but the CAAS slave is now abandoned in place since it is no longer required.

At the current time, utilities in the building include electricity, telephones, potable water, sanitary sewer connections, steam heat from the steam plant, two central air conditioning units, and five window type air conditioners. There are individual steam radiators used for building heating.

There is an active condensate leak from the steam heater in Room #2. Numerous signs of steam leaks were noted throughout the building on valved off steam heaters. Additionally, there are numerous steam regulators inoperable throughout the building. The main steam valve on the outside of the building on the southeast side is leaking. The two central air conditioning units needed repeated maintenance and repair last summer. Given the age of the facility, the two central air conditioning units and five window type air conditioners very likely contain chlorofluorocarbons (CFCs). There are holes in the sheet metal siding on the west and south sides, the bottom of siding is rusted and deteriorated in some areas around building, and the siding is dented on the north side. There are two broken windows, one on the north side

and one on the south side. The entrance walk-in door needs painting. During interviews with the building custodian it was learned that the original drywall was tested and was found to contain asbestos. This original drywall has some holes and cracks. The concrete floor is cracked, but not separated and the original floor tile contains asbestos, but is covered with new floor tile or carpet in some areas. However, there are a few areas where the original floor tile is still visible. Paint is flaking off the air duct in the electrical storage area. The hot water dispenser on the drinking fountain is leaking. The showers are not being used and have been declared inoperable. Approximately 10% of the lighting fixtures need relamping, most of the receptacles and light switches do not have power source labels, and the kitchen outlets do not indicate ground fault interruption circuits. The Electrical/Utility room looked well marked and maintained. However, it does need some housekeeping attention.

There are no security concerns and the facility can be secured with available locks. Emergency management for the facility is restricted to the personnel currently in residence and is serviced by Emergency Monitoring Station #3.

The X-105 Process Hazards Survey (PHS) (PHS-SM-0105-0011) has been completed and is in the approval cycle. The X-105 facility will have an "Other Industrial" Hazard Categorization when it is approved and accepted by DOE. This is a downgrade from the previous "Radiological" hazard category.

#### **2.1.5 Current or Historical Maintenance Costs**

The following information was gained from USEC as a part of the historical maintenance activities since July 1993.

Regularly scheduled preventative maintenance (PM) is conducted on window air conditioners. In addition, regularly scheduled inspection/surveillance and/or calibrations/tests are conducted on the following pieces of equipment:

Portable fire extinguishers.

- Monthly inspections,
- 6 year maintenance,
- 12 year hydro-test (6 each)

Fire alarm pull stations, semi-annual test (3 each).

Supervisory alarm transmitters (for X-744H and X-744J), tested annually (3 each).

Sprinkler system: monthly inspections, annual test (1 each).

Test personnel evacuation alarm system.

- Check steam system safety relief valve.

Test hot water tank relief valve.

The following items are corrective maintenance activities as per CMMS:

- Steam and condensate repairs;
- Electrical repairs;

- A/C repairs (main unit & window units);
- Replace water fountain;
- Repair broken window;
- Unclog water fountain drain;
- Repair restroom plumbing;
- Remove asbestos from water line;
- Clean up asbestos laying on ground outside on north side of building;
- Custodial; and
- Relamping.

A monthly walkdown to provide documentation of condition changes in the facility will be required.

It is recommended that a one-time cost be incurred to disconnect the steam and condensate, drain sanitary water, heat the riser to the dry sprinkler system (small enclosure with approximate 2-ft high wall with electric heater), and lock the door after the facility is de-leased.

#### One-time Deactivation Cost Estimate:

Isolate and drain:

Engineering	40 Man-hours (MH)
Electrical	40 MH
Mechanical	40 MH
	120 MH @ \$90/hr = \$10,800

Heated sprinkler riser enclosure cost:

Engineering	40 MH
Carpenter	40 MH
Electrical	20 MH
	100 MH @ \$90/hr = \$9000

#### Annual Surveillance Cost Estimate:

Surveillance costs on a monthly basis for one year are:

Twelve surveillances/year x 8 MH/surveillance x \$70/hr = \$6720/year

It is recommended that the facility be placed into the DOE Deferred Maintenance Program.

### **2.1.6 Identified Sources of Known or Potential Impacts**

There are no sources of known or potential impacts from the de-leasing of the X-105. However, the presence of asbestos materials in the facility must be considered for future D&D activities. Reviews of the pre-existing conditions from 1993 indicate that there is probable contamination of the sewer lines resulting from prior operations with the copper stripping tanks and the circuit board etching processes.



### **2.1.7 Data Evaluation from the Due Diligence Effort**

Evaluation of data from the due diligence effort did not identify any current potential risks or liabilities associated with this facility. However, consideration must be given to asbestos when the facility is scheduled for D&D. The facility is a standard industrial facility that has been used for multiple purposes since its construction in 1957. Essentially two choices can be made for this facility. The first is to abandon the facility in-place and schedule it for early D&D. The second choice is to consider the value of the facility as a storage area. However, other better quality storage areas are available at the Portsmouth Site and expenditure of funds for continued surveillance and maintenance of this 44 year-old facility is questionable.

### **2.1.8 Recommendation for De-Leasing the Facility**

There are no known risks or impacts identified with the de-leasing of this facility. USEC will delay the re-location of personnel currently in this building until late June 2001. This is consistent with the start of layoffs of personnel impacted as a result of bringing the Gaseous Diffusion Plant (GDP) to cold standby. Room made available in other facilities will allow personnel in the X-105 to be re-located.

USEC should remove all supplies, furnishings, and wastes to include the drum of radiological burnable waste from this facility prior to de-leasing.

It is recommended that this facility not be occupied and be placed on the list for early D&D. Actions will be required to isolate the steam supply to the building and drain all lines of condensate to prevent winter freezing. Additionally, it is recommended that the existing fire protection system be isolated, drained, and air-dried to preclude winter freeze damage. The X-105 should then be electrically isolated, locked and abandoned until D&D efforts can be initiated.

It is our recommendation that de-leasing be delayed until all punchlist items are completed and have been verified.

## **2.2 X-230J-1 ENVIRONMENTAL MONITORING STATION**

### **2.2.1 Facility Description**

The X-230J-1 Environmental Monitoring Station (see Fig. 2.3) is a 100-ft<sup>2</sup> masonry block building located on the south side of the East Drainage Ditch, just west of the property fence in Quadrant II at approximate coordinates N 10800, E 10900 (see Fig. 2.4). This building served as the monitoring station for water exiting the plant from the East Drainage Ditch since its construction in 1968 until the X-230J-7 East Monitoring Facility was completed in 1983. The X-230J-1 was then abandoned except for use as an air monitoring station and occasional use for storage. The facility remains abandoned and is now located within a marked Radioactive Materials Area due to surrounding vegetation contamination from technetium.

### 2.2.2 Facility Photograph



**Fig. 2.3 X-230J-1 Environmental Monitoring Station looking west.**

### 2.2.3 Location Map for the Facility

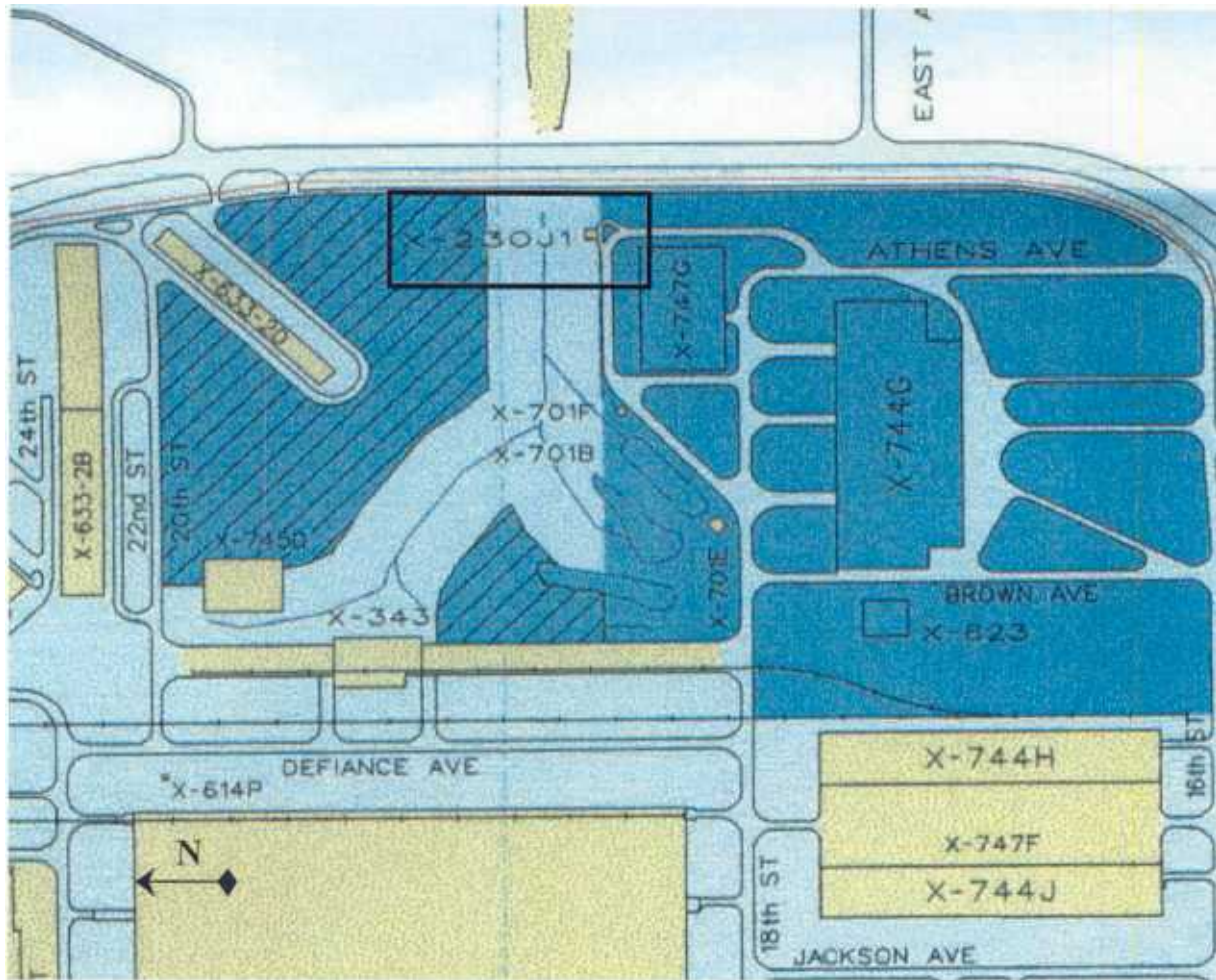


Fig. 2.4 Location of the X-230J-1 Environmental Monitoring Station.

### 2.2.4 Summary of Current Conditions

The inactive and empty X-230J-1 Environmental Monitoring Station Building served as a monitoring station for water leaving the East Drainage Ditch at PORTS from 1968 to 1983. The X230J-1 is a 100-ft<sup>2</sup>-masonry block building located on the south side of the East Drainage Ditch at coordinates N 10800, E 10900.

Observations during the facility walkdown indicate that there is no imminent danger and the building contains no potential significant health hazards from biological conditions or animal intrusion. No significant necessary safety devices appear to be missing at the X230J-1. Current safety inspection records were not available at the time of this inspection, and the X-230J-1 does not contain any equipment that requires safety inspections. The building is locked and the existing keys and locks can be retained and utilized after de-leasing.

The X-230J-1 does not have a fire detection or alarm system, sprinkler system or fire extinguisher.



No flammable materials, and no fire hazards were identified during this walkdown.

The X-230J-1 does not have an emergency evacuation alarm system and has no operating emergency communications system. There are no signs of physical conditions or barriers that would interfere with evacuation of personnel nor are there areas where access control appears to be inadequate. The X-230J-1 is located in an area posted as a "Radiological Controlled Area, Thermoluminescent Dosimeter (TLD) or Personnel Neutron Accident Dosimeter (PNAD) required for entry."

The facility was out of service prior to the USEC lease. The overhead electrical service has been cut and is coiled up at the side of the building. This abandoned service drop should be removed. There was a small amount of miscellaneous sanitary trash (empty plastic bottles, boundary tape, and a radiological stanchion). The shingled roof has deteriorated, the door needs paint, and the drywall ceiling was never finished.

There are no documented releases from the X-230J-1. However, this building served as a monitoring station for water exiting the plant from the East Drainage Ditch since construction in 1968 until the X-230J-7 East Monitoring Facility was completed in 1983. A pump in the ditch transferred water to the X-230J-1 Facility for testing and then routed the water back to the ditch. If potentially contaminated water from the ditch were to have spilled, it would have been routed back to the ditch via three drains that exist in the floor. Past spills of water samples from the East Drainage Ditch onto the floor and through the floor drainpipes were the only contamination noted. (Report for Environmental Audit Supporting Transition of the Gaseous Diffusion Plants to USEC, 6/93.) During this current assessment, the facility custodian indicated that the system had not been operated for at least 10 years.

Stormwater runoff from the roof discharges to the East Drainage Ditch and proceeds to the X-230J-7 Holding Pond (National Pollutant Discharge Elimination System (NPDES) Outfall 001). The X-230J-1 has three floor drains that empty into the East Drainage Ditch.

No PCB equipment or contaminated equipment was reported or observed to be associated with the X-230J-1. Further, there is no evidence, documented or reported, of PCB contamination in the building or the surrounding grounds (Report for Environmental Audit Supporting Transition of the Gaseous Diffusion Plants to USEC, 6/93.)

The X-230J-1 does not appear to be subject to flooding or significant water leaks, does not pose a significant imminent hazard to health or safety, or pose a risk of releasing contaminants to the environment. The X-230J-1 does not contain any systems that may have contained chemicals, radioactive materials or waste, other than what may have been introduced from pumping effluent from the East Drainage Ditch.

During the facility walkdown an inventory of chemicals was not provided nor were any chemicals observed.

The X-230J-1 is not analyzed in depth in the Authorization Basis (AB) documents and the site Technical Safety Requirements (TSRs) do not pertain to the X-230J-1. The X-230J-1 PHS (PHS-SM-230J-0010) has been completed and is in the approval cycle. The X-230J-1 facility will have an "Other Industrial" Hazard Categorization when it is approved and accepted by DOE.

The following AB documents (see References) provide descriptive information and references. The TSR-related documents provide information on the CAAS. The CAAS is not applicable to the X-230J-1 building because the X-230J-1 is not a slaved building to which radiation warning lights and evacuation horns are extended from a CAAS-clustered building.

The following additional references pertain to the CY 2001 de-leasing review of the X-230J-1

- Environmental Assessment Report for Environmental Audit Supporting Transition of the Gaseous Diffusion Plants to USEC, prepared by the Scientific Applications International Corporation (SAIC) or DOE, 1993.
- The X-230J-1 observations and notes during a walkdown led by the building custodian on April 24, 2001 are:

Hazardous inventory of materials are not present and are not analyzed.

The USEC AB and DOE/BJC AB documents will be revised to recognize a transition from USEC to DOE.

No unevaluated changes were identified. The transition from USEC to DOE will be recognized using the Unreviewed Safety Question Determination (USQD) process.

No Discovery USQD situations were identified.

No chemicals were observed. This will be recognized in a de-leased facility PHS that includes the X-230J-1.

A review of the criticality safety aspects of the building document the following:

- No fissionable/fissile material in the facility, therefore no fissile material operations are being performed (SAR-PORTS, USEC TSR, USEC SAR).

Facility is not slaved to the CAAS (Table 3.6.2-1, SAR-PORTS)

- The authorization basis documents itemized in the Facility Information Source Reference List verify that no fissile material operations are taking place in this facility and have probably never taken place in this facility.

#### **2.2.5 Current or Historical Maintenance Costs**

The X-230J-1 building is a posted Fixed Contamination Area, the power has been disconnected, and the door is locked. It is recommended that the X-230J-1 be placed into DOE's Deferred Maintenance Program and on the short range D&D list.

Until that action is taken, it is estimated that semi-annual surveillances of the facility will cost approximately \$1120 per year.

Two surveillances x 8 MH/surveillance x \$70/hr. = \$1120/year

#### **2.2.6 Identified Sources of Known or Potential Impacts**

Based on the information gained during the due diligence effort, there are no known risks or impacts associated with the de-leasing of the X-230J-1 building. The building has been in a state of deactivation and essential abandonment for several years.

### **2.2.7 Data Evaluation from the Due Diligence Effort**

The X-230J-1 facility is functionally at the end of its useful life. The building has been in a state of deactivation and essential abandonment for several years. No environmental risks were identified during the due diligence effort.

### **2.2.8 Recommendation for De-Leasing the Facility**

De-leasing of this facility from USEC to DOE poses no additional or unknown risks or liabilities to DOE. The facility is essentially abandoned and it is recommended that the building remain locked, abandoned, and be considered for early entry into the D&D program.

## **2.3 X-230J-8 ENVIRONMENTAL STORAGE BUILDING**

### **2.3.1 Facility Description**

The X-230J-8 Environmental Storage Building (see Fig. 2.5) is a 100-ft<sup>2</sup> steel temporary structure located in Quadrant I at approximate plant coordinates N 4800, E 8300 (see Fig. 2.6). Built in 1981 for general and soil sample storage, the building remains in average condition. It had been used as an air monitoring station beginning in 1983. After 1993 the building was used for storage. The building is now empty and will be utilized for other purposes after de-leasing.

### **2.3.2 Facility Photograph**



**Fig. 2.5 X-230J-8 Environmental Storage Building looking east.**

### 2.3.3 Location Map for the Facility

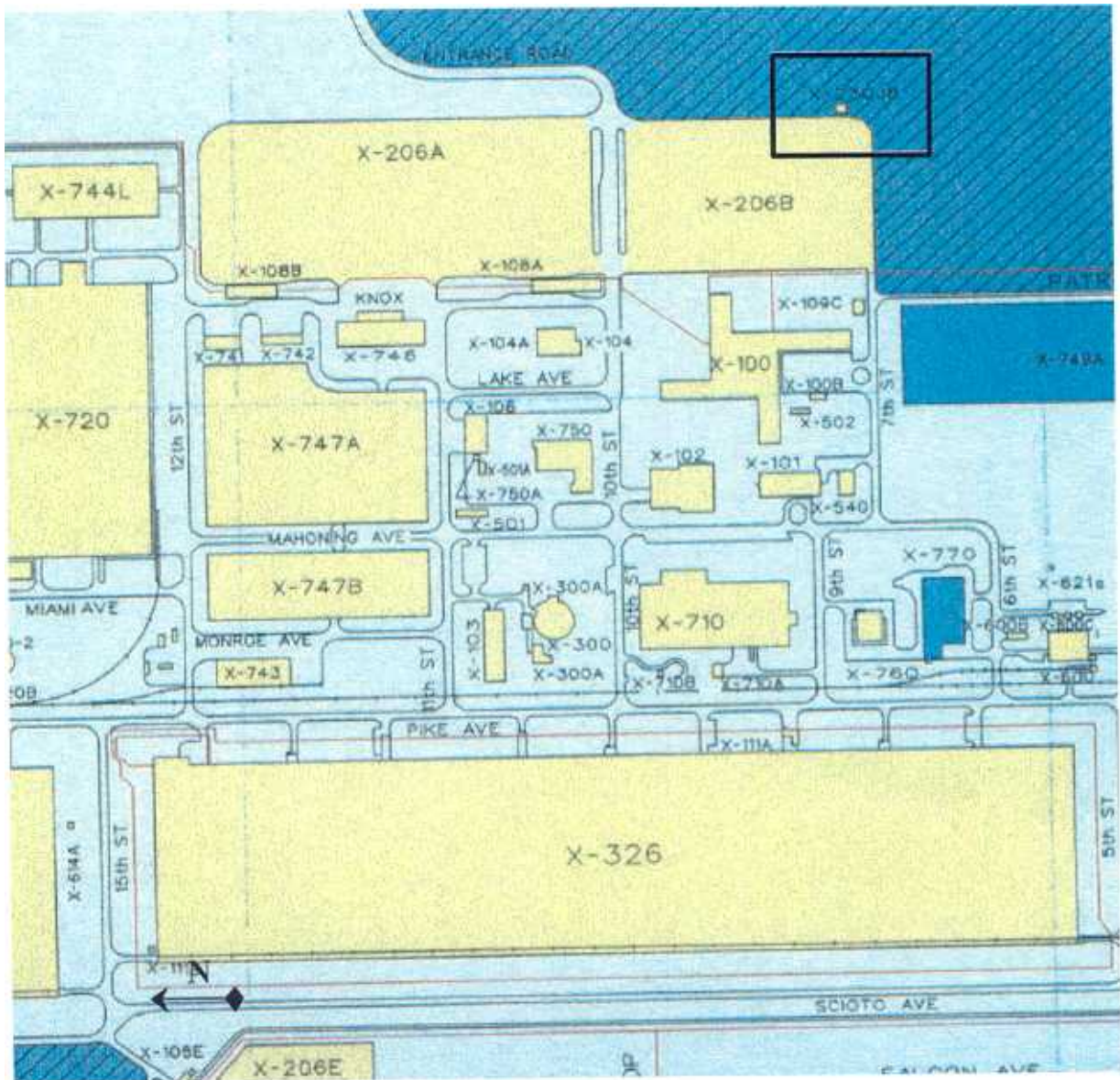


Fig. 2.6 Location of the X-230J-8 Environmental Storage Building.

### 2.3.4 Summary of Current Conditions

The empty, inactive X-230J-8 Environmental Storage Building has previously served as an air monitoring station and was built in 1981 for general and soil sample storage at the PORTS. The X-230J-8 is a 100-ft<sup>2</sup> steel temporary building located in the southern part of the plant at coordinates N 4800, E 8300.

Observations during the facility walkdown indicate that there is no imminent danger and the building contains no potential significant health hazards from biological conditions or animal intrusion. Current



safety inspection records were not available at the time of the inspection. However, it is unlikely that the X-230J-8 contained any equipment that required safety inspections. The building is locked and the existing keys and locks can be retained and utilized after de-leasing.

The X-230J-8 does not have a fire detection or alarm system, does not have a sprinkler system, fire extinguisher, or flammable materials and no fire hazards were identified during this walkdown. Additionally, the X-230J-8 does not have an emergency evacuation alarm system and has no operating emergency communications system. There are no signs of physical conditions or barriers that would interfere in evacuation of personnel nor are there areas where access control appears to be inadequate.

The building does not appear to be subject to flooding. However, the walls have signs of water damage. The X-230J-8 has no floor drains and no water supply to the temporary structure.

Although the facility is bolted down, the X-230J-8 is a temporary portable structure that may be subject to damage by high winds. The design basis information was not provided, and integrity of the structure was not verified during this walkdown.

There are fluorescent lights with ballasts present at the facility. Although it is not known if the ballasts contain PCBs, the building was built in 1981, after the 1979 PCB ban (required under 40 CFR 761). No staining was observed to indicate leaks in the ballasts.

Stormwater runoff from the roof discharges to a drainage ditch located immediately south of the X-206B Parking Lot and flows to the X-230K Holding Pond.

No chemicals were stored in the X-230J-8 at the time of inspection and the X-230J-8 does not contain any systems that may have contained chemicals, radioactive materials or waste.

The X-230J-8 facility is not analyzed in depth in the AB documents and the site TSRs do not pertain to the X-230J-8. The X-230J-8 PHS (PHS-SM-230J-0010) has been completed and is in the approval cycle. The X-230J-8 facility will have an "Other Industrial" Hazard Categorization when it is approved and accepted by DOE.

The following AB documents (see References) provide descriptive information and references. The TSR-related documents provide information on the CAAS. The CAAS is not applicable to the X-230J-8 building because the X-230J-8 is not a slaved building to which radiation warning lights and evacuation horns are extended from a CAAS-clustered building.

The following additional references pertain to the CY 2001 de-leasing review of the X-230J-8:

- Environmental Assessment Report for Environmental Audit Supporting Transition of the Gaseous Diffusion Plants to USEC, prepared by SAIC for DOE, 1993.
- The X-230J-8 observations and notes by H. Hartman during a walkdown led by P. McGoron of USEC on April 24, 2001 are:

Hazardous inventory of materials are not present and are not analyzed.

The USEC AB and DOE/BJC AB documents will be revised to recognize a transition from USEC to DOE.

No unevaluated changes were identified. The transition from USEC to DOE will be recognized using the USQD process.

No Discovery USQD situations were identified.

No chemicals were observed. This will be recognized in a de-leased facility PHS that includes the X-230J-8.

A review of the criticality safety aspects of the building document the following:

- There is no fissionable/fissile material in facility, therefore, no fissile material operations are being performed (SAR-PORTS, USEC TSR, USEC SAR).
- Facility is not slaved to the CAAS (Table 3.6.2-1, SAR-PORTS).
- The AB documents itemized in the Facility Information Source Reference List verify that no fissile material operations are taking place in this facility and have probably never taken place in this facility.

### 2.3.5 Current or Historical Maintenance Costs

It is recommended that a one time cost be incurred to disconnect the power and move this portable office building to a DOE warehouse-type facility and "hold for future use" or surplus and sell this unit.

Other Comments:

- USEC should remove shelving/material.
- A one time cost of disconnecting and relocation of portable building:

—Engineer/drafter	16 MH – disconnect drawing
—Electrician	8 MH – disconnect electricity
—Maintenance mechanic/truck driver	<u>16 MH</u> – move it
	40 MH @ \$90/hr. = \$3600

### 2.3.6 Identified Sources of Known or Potential Impacts

There are no known or potential risks or impacts associated with the de-leasing of the X-230J-8

### 2.3.7 Data Evaluation from the Due Diligence Effort

The X-230J-8 is a temporary portable steel structure with power supply for lighting and its prior use as an air monitoring station. Recently, USEC has used the building as a storage area. All materials have been removed and the building could be moved to another location for temporary use (i.e., during D&D efforts), sold as surplus material, or destroyed. The building exhibits some water damage (probably from rain in-leakage), but is potentially serviceable.

#### **2.4.7 Data Evaluation from the Due Diligence Effort**

The due diligence effort confirmed that this facility has been inactive since 1994, but has been maintained in a condition that would allow for continuation of PCB transformer cleaning operations with very little effort. Expectations for its use in the near future are small, therefore, the facility needs to be retained in its current inactive state, but maintained for potential future use.

USEC has been requested to remove the 55-gal drum with approximately 5 gal of kerosene. USEC has also been requested to conduct a survey of the facility and remove the radiological contamination area and signage from the area along the west inside of the building. There is also signage on the building that requires a radio for entry that is obsolete and cannot be removed prior to de-leasing per discussion with USEC, however, should be removed after return of facility to DOE.

It is recommended that the building be isolated and the door locked except for access to the external slaved CAAS radiological monitoring system light. Since there is no fire protection, no air conditioning or heating requirements, it is also recommended that the power to the building be disconnected during this inactive period. The building should be placed in the Deferred Maintenance System to maintain integrity until restart or selection for the D&D program.

#### **2.4.8 Recommendation for De-Leasing the Facility**

It is our recommendation that this de-leasing be delayed until all punchlist items are complete and verified.

Most, if not all of the activities and the current conditions within the X-334 are legacy issues for DOE, and the facility has the potential to be of future use to DOE in support of D&D efforts within the GDP buildings.

It is possible that USEC may request use of this facility in support of shipping and transfer facilities and maintenance of the cold standby condition for the GDP buildings.

### **2.5 X-616 LIQUID EFFLUENT CONTROL FACILITY**

#### **2.5.1 Facility Description**

The X-616 Liquid Effluent Control Facility (see Fig. 2.9) located at coordinates N 8500, E 6100 (see Fig. 2.10) was constructed in 1976 to treat recirculating cooling water (RCW) blowdown from the PORTS process cooling system. In addition to treating RCW blowdown, the facility also treated effluent from the X-700 Chemical Cleaning Facility and the X-705 Decontamination Building. In 1990, the chromium-based corrosion inhibitor was replaced with a phosphate-based inhibitor. The X-616 Control Facility continued to treat RCW for chromium until the levels within the RCW system were reduced sufficiently by dilution. In April 1992, treatment of RCW water was suspended. RCW was circulated through the facility until March 2000 to monitor pH, flow rate, and water clarity with water samples taken routinely and sent to the onsite lab for analysis. The water sampling station was relocated to a head house located near the southeast corner of the X-330 building and the equipment in the X-616 deactivated. The facility consists of a 2000-ft<sup>2</sup> control building, two 460,000-gallon clarifiers, two pH adjustment tanks, and a neutralization tank. Sludge from the clarifier tanks and a filter press, internal to the building, was removed in 1998 and is currently in storage as Resource Conservation and Recovery Act (RCRA) waste in the X-7725 Recycle & Assembly Building (X-7725). The X-616 facility is in Quadrant III, east of C Road.

### 2.5.2 Facility Photograph



**Fig. 2.9 X-616 Liquid Effluent Control Facility looking north.**



[illegible]

#### 2.5.4 Summary of Current Conditions

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process tanks. Blowdown from the RCW system still passes through a bypass line near the building with a previously utilized sampling loop in the building being isolated. USEC has current plans to blank flange the loop through the building, but continue to use the RCW blowdown path via the bypass line to Outfall 004. Additionally, the potential exists for lead-based paint to be present on the walls of the facility and on the outside tanks.

The facility is currently open for access. The back door is out of alignment and it cannot be closed or locked. There is no facility emergency packet for the building. The building mechanical systems have been shutdown. The facility custodian stated that the mechanical systems were in working order at time of facility termination. Inspections are being performed by Fire Protection.

There is no imminent danger at the X-616 and no significant necessary safety devices appear to be missing. There are no potential significant health hazards from biological conditions or animal intrusion. No fire hazards were identified during this inspection. There are no signs of physical conditions or barriers that would interfere in evacuation of personnel, and there are no areas where access control appears to be inadequate. The X-616 facility does not pose a significant imminent hazard to health or safety, or pose a risk of releasing contaminants to the environment. The X-616 does not appear to be subject to flooding or significant water leaks. There are no chemicals stored in the X-616 that appear to be stored in an unsafe condition. No chemicals stored pose potential vulnerabilities by their intrinsic properties, and no chemicals stored appear to have the potential to change ultimately due to the evaporation or introduction of water. No MSDSs are maintained at the X-616.

Raw materials stored at the X-616 facility included lime, SO<sub>2</sub>, waste treatment polymers, and janitorial supplies (Report for Environmental Audit Supporting Transition of the Gaseous Diffusion Plants to USEC, 6/93). SO<sub>2</sub> was used at the X-616 facility up to 1993 (Issue X93I00061, Finding PTS-92-3921). According to the building custodian, the Lime Feed Silo is about half-full (approximately 10,000 lbs.) of lime. Hardened slaked lime is present on equipment, floors, and walls of the lime feed area (Report for Environmental Audit Supporting Transition of the Gaseous Diffusion Plants to USEC, 6/93). Residual radionuclides, volatile organic compounds (VOCs), hexavalent and trivalent chromium contamination may be present in process tanks and clarifiers (Report for Environmental Audit Supporting Transition of the Gaseous Diffusion Plants to USEC, 6/93).

On April 11, 1996, beta-gamma contamination was discovered on the Lockheed Martin Utility Services' leased concrete/asphalt pad near the X-616 facility. This contamination appeared to be from a Lockheed Martin Energy Systems (LMES) sub-contractor trailer. This trailer and access steps were contaminated during a small release in that facility on April 10, 1996 (Level III Occurrence Report #ORO-LMES-PORTSENVRES-1996-002). The highest level of beta-gamma contamination discovered was 500,000 dpm/100 cm<sup>2</sup> direct readings and 2100 dpm/100 cm<sup>2</sup> removable (X96I03829, Finding PR-PTS-96-02261). The area was remediated upon discovery.

Lead-based paints may be present on building tanks, clarifiers, and facility walls due to the age of the building (Report for Environmental Audit Supporting Transition of the Gaseous Diffusion Plants to USEC, 6/93). There is a possibility of the presence of CFCs in the air conditioner. The air conditioner, located at the southeast corner of the building was manufactured in March 1983. No documentation was available to confirm the presence of PCBs in the fluorescent light ballasts (Report for Environmental Audit Supporting Transition of the Gaseous Diffusion Plants to USEC, 6/93).

There are no known air emissions at the X-616 facility (Report for Environmental Audit Supporting Transition of the Gaseous Diffusion Plants to USEC, 6/93). The SO<sub>2</sub> Room exhaust vent, which is not registered with the Ohio EPA (USEC List of Air Effluent Sources dated October 18, 1995), is located on the west wall of the SO<sub>2</sub> Room in the Control Building. It is no longer in use, and a weatherproof fabric

has been placed over the outside. There is a sewer line vent at the Control Building that passes through the roof near the south end of the building above the Control Room lab sink. There are two ceiling vents in the Control Building. One is located near the north end of the Control Room, and the other is located near the west end of the Equipment Room just north of the roll-up door. There is a filtered vent in the north wall of the Control Building Equipment Room that is no longer in use, and a weatherproof fabric has been placed over the outside. No vent identification number signs associated with any of the vents were noted.

Friable asbestos containing material has been reported in this facility (Report for Environmental Audit Supporting Transition of the Gaseous Diffusion Plants to USEC, 6/93). Some damaged insulation that could possibly contain asbestos was noted around pipes leading to the large tanks outside of the Control Building.

Waste streams from this building include solid waste from general housekeeping activities and oily rags and gloves from maintenance activities. These were collected and stored in a satellite accumulation area (Report for Environmental Audit Supporting Transition of the Gaseous Diffusion Plants to USEC, 6/93). Treated RCW blowdown was discharged to an unnamed tributary of the Scioto River through Outfall 004.

In 1990, the neutralization tank overflowed. The spill was discovered as soon as it happened, and pumps were manually operated to prevent any further overflow (Issue X93I00699, Finding PTS-90-0381). On November 6, 1991, hazardous waste chromium sludge was discharged during transfer from the north sump to the north clarifier tank. A polyvinyl chloride (PVC) coupling on a valve broke apart resulting in a mixture of chromate sludge and water being spilled on the ground around the tank (Issue X93I00786, Finding PTS-91-6771). In January 1997, the high-level pump discharge line leaked allowing RCW to be discharged on the ground (X97I02168, Finding PR-PTS-97-00819).

There have been a number of NPDES Permit exceedances noted at Outfall 004. They are as follows:

- Copper exceedances on 7/14/92 (Issue X93I00061, Finding PTS-92-3921 and Issue X93I00972, Finding PTS-92-392) and 1/28/97 (X97I02365, Finding PR-PTS-97-01044).
- Total chromium exceedance on 7/16/91
- Total residual chlorine exceedance on 8/29/90 (Issue X93I00716, Finding PTS-90-0391).
- Total iron exceedances in 1991 (Issue X93I00730, Finding PTS-91-3121), and on 4/16/91, 4/24/91 (Issue X93I00855, Finding PTS-91-328), 3/2/93 (issue 94I00190, Finding PTS-93-154), 4/6/94 and 4/12/94 (Issue X94I00643 and X94I00644, Finding PTS-94-029) and 4/19/94 (X94I00669, Finding PTS-94-033).

Total monthly average iron exceedances for 4/91 (Issue X94I00097, Finding PTS-91-334) and 4/94 (X94I00714, finding NCR-EW-94-0080).

Total zinc exceedance on 4/5/91 (Issue X93I00887, Finding PTS-91-278).

Total monthly average zinc exceedance for 4/91 (Issue X93I00885, Finding PTS-91-335).

- Total dissolved solids exceedances on 11/26/91 (Issue X93I00734, Finding PTS-91-7381), 5/9/95 and 5/17/95 (X95I04568, Finding PTS-95-078).

- Total monthly dissolved solids exceedances for 11/91 (Issue X93I00738, Finding PTS-91-7411) and 5/95 (X95I04568, Finding PTS-95-078).

Total suspended solids exceedances on 7/16/91 (Issue X94I00025, Finding PTS-91-501), 12/10/91 (Issue X93I00737, Finding PTS-91-7471) and 1/27/92 (Issue X94I00022, Finding PTS-92-040).\*

- Low pH discharge on 6/18/95 (X95I02714, Finding PTS-95-078).
- Biototoxicity sample for 8/96 had 100% mortality for fathead minnows (similar problem noted for 6/96) (X96I07722, Finding PR-PTS-96-6008).

*\*A monthly average total suspended solids was noted for March 1991, but in the description of occurrence it is referred to as a total chromium exceedance. Believe the reference to total chromium was inadvertent and meant to be total suspended solids (Issue X93I00716, Finding PTS-91-5001).*

There are a number of tanks of various sizes, both inside the Control Building and outside. All are associated with treatment of RCW for chromium. None of the treatment process tanks are currently in use. One small fiberglass tank located near the east end of the Equipment Room in the Control Building, contains a small amount of liquid. Several of the tanks contain hardened lime sludge residue. All the tanks associated with treatment of RCW for chromium are aboveground. The tanks inside the Control Building are diked with concrete curbing, and one of the dikes was damaged. The large tanks outside are not diked. Most of the tanks inside the Control Building were marked as to their function.

The Control Room lab sink located near the south end of the Control Building drains into a sewer pipe. The sewer pipe is broken about 6" above the floor. A wash basin located near the north end of the Control Room in the Control Building drains into a floor drain located by Polymer Tank #2 near the east end of the Equipment Room. Drinking water and waste from the sink flow to a sump in the Control Building, then subsequently discharged to the Scioto River through Outfall 004 (Report for Environmental Audit Supporting Transition of the Gaseous Diffusion Plants to USEC, 6/93).

There are two sumps or pits inside the X-616 to include:

A sump located in the northeast corner of the Control Facility in the Equipment Room. Water was noted inside the sump.

A sump located along the north side toward the west end of the Control Facility in the Equipment Room. It appears to be associated with the process equipment.

There are a number of sumps or pits at several outside locations at the X-616 to include:

Two large steel covers along the east side of the Control Facility that were too heavy to remove to see inside.

Two steel covers located near the northeast corner of the Control Facility. The pit under these covers appears to contain water.

One large steel cover that was too heavy to remove located approximately 15-ft north of the north entry to the Control Facility.



One large steel cover that was too heavy to remove located approximately 15-ft north of the northwest corner of the Control Facility.

One steel cover is located along the west side between the two large tanks. The pit under this cover appears to contain water.

Three circular aluminum covers located along the west side between the two large tanks. The pits under these covers appear to contain water.

Stormwater runoff flows to the X-230J-5 Holding Pond and is then discharged to an unnamed tributary of the Scioto River through Outfall 010. NPDES Outfall 004 was at the X-616, but is now at another location.

There are several pieces of an unknown translucent, yellowish, rubbery substance lying on the ground and concrete pad near the southwest corner of the building. Poison ivy is found throughout the outside areas of the X-616 facility.

A roof panel in the lime feed area is damaged and hanging down. The downspouts on the north and south sides need to be repaired and the entrance doors need to be painted. There is hardened slaked lime on the equipment, floor, and walls of the lime feed area. The bottom trim on interior wall panels is rusted and corroded and the floor tile in the control room needs to be replaced. Approximately 20% of the lights need to be relamped. The liquid level control flex conduit fitting on the lime slurry tank is loose. The "T" conduit on the east side needs to be plugged and the cannon connector needs to be reinsulated. The conduit, control panels and fittings in the process area are corroded. There is excessive vegetation growth around the pad-mounted transformer which could cause tracking should the ivy get into the energized terminals of the transformer. The weeds need to be controlled, and the facility de-energized from the 13.8 kV overhead line.

There is no fissionable/fissile material in the facility. Therefore, no fissile material operations are being performed (SAR-PORTS, USEC TSR, USEC SAR) and the facility is not slaved to the CAAS (Table 3.6.2-1, SAR-PORTS). The authorization basis documents itemized in the Facility Information Source Reference List verifies no fissile material operations are taking place in this facility and have probably never taken place in this facility.

The X-616 PHS (PHS-SM-0616-0015) has been completed and is in the approval cycle. The X-616 facility will have an "Other Industrial" Hazard Categorization when it is approved and accepted by DOE. This is a downgrade from the previous "Non Nuclear-Moderate" Hazard Category.

### **2.5.5 Current or Historical Maintenance Costs**

Regularly scheduled PM activities since 1993 per CMMS are:

- Lube clarifier;
- Local exhaust PM/measurements;
- Lube exhaust fans;
- Lube effluent pumps; and
- Lube neutralization tank gear boxes.

Regularly scheduled inspection/surveillance and/or calibrations/tests per CMMS are:

- Calibrate magnetic flow meter/pH control;
- Inspect/test emergency egress lighting (semi-annual);
- Test hot water tank safety valve;
- Inspect portable fire extinguishers monthly;
- Perform safety eye wash checks monthly; and
- Check back flow preventer.

Corrective maintenance activities per CMMS are:

- Repair/replace exhaust fan in SO<sub>2</sub> Room;
- Troubleshoot and repair plantwide evacuation PA system; and
- Repair hinges on large door, south end of building.

Routine maintenance activities are:

- Grass mowing around facility; and
- Operational surveillances

It is recommended that regularly scheduled surveillances be performed monthly to provide walkdown documentation of condition changes in the facility. This will include monitoring for corrective maintenance items such as lighting, waterline leaks, and roof leaks. Tanks may need to have water pumped out of them intermittently and the grass around the facility will require cutting on an expanded frequency (freq).

The estimated annual maintenance costs for this facility are:

- Surveillance cost: monthly – 12/year x 8 MH/surveillance x \$70/hr. = \$6720/year;
- Grass cutting: 3 times/year – 16 MH/cut x 3/year x \$70/hr. = \$3360/year.

#### **2.5.6 Identified Sources of Known or Potential Impacts**

There are no known current sources or potential impacts from the de-leasing of this facility. Knowledge of prior operations provides for caution since there may be hazardous chemicals present in the form of residues, but data gained during the due diligence effort supports a thorough and proper shutdown of this facility with little or no risk remaining.

#### **2.5.7 Data Evaluation from the Due Diligence Effort**

The facility is non-functional and has reached the end of its useful life. Chromate reduction activities stopped in April 1992, however, the clarifiers were still in use. This facility was not used by USEC, and RCW now bypasses the X-616 facility and goes directly to the Scioto River. Sludge from the clarifier tanks has been removed and placed in RCRA hazardous storage in the X-7725. Also, material from the filter press internal to the building has been removed to the same storage location.

USEC has committed to isolate the facility from the blowdown path to Outfall 004 by valving off and installing blank plates on two underground water pipes that formed a prior sampling loop through the facility. It is recommended that the facility be deactivated, power and utilities turned off, and the doors

locked. The facility should be placed into the DOE Deferred Maintenance Program and scheduled for early D&D.

#### **2.5.8 Recommendation for De-Leasing the Facility**

It is our recommendation that this de-leasing be delayed until all punchlist items are complete and verified.

There are several possible issues with this facility due to prior operations and the potential for hexavalent chromium presence. In July 1993, DOE leased the X-616 to USEC as an operating facility even though the transition from chromate to phosphate chemistry was completed in 1992. Sampling of the filter press has been completed to determine if any residual chromium remains.

USEC has a project in place to isolate and blank-off the blowdown outfall line that is scheduled for completion by October 31, 2001. Until that time, the recommendation is to agree to a mutual lock and tag of the sampling loop isolation valves until the modification is completed.

### **2.6 X-701D WATER DEIONIZATION BUILDING**

#### **2.6.1 Facility Description**

The X-701D Water Deionization Facility (see Fig. 2.11) is located in Quadrant I at coordinates N 10300, E 9300 (east-central portion of plant site) (see Fig. 2.12). Constructed in 1955, it is a 700-ft<sup>2</sup> steel-framed building with concrete block base and floors. From 1955 to 1985 the facility was used to prepare deionized water for decontamination and chemical cleaning operations. In 1985 the facility stopped deionizing water and the building was used to store chemicals.

### 2.6.2 Facility Photograph



**Fig. 2.11 X-701D Water Deionization Building looking east.**

### 2.6.3 Location Map for the Facility

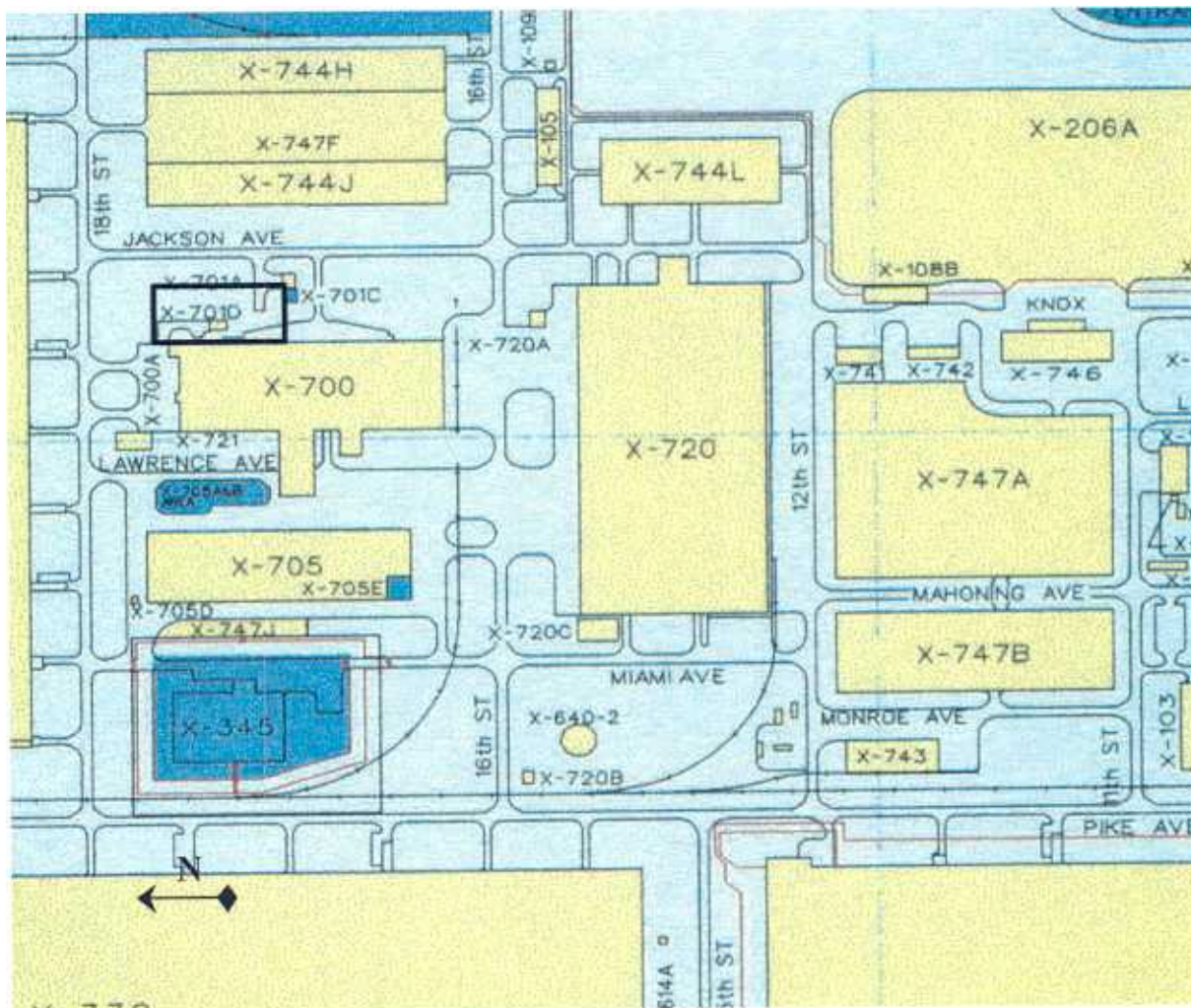


Fig. 2.12 Location of the X-701D Water Deionization Building.

### 2.6.4 Summary of Current Conditions

The inactive X-701D Water Deionization Building contains equipment that was used to provide deionized water for the X-700 decontamination and chemical cleaning operations from 1955 to 1985. In 1985 the deionization process was discontinued and the building was used to store chemicals. Tanks and residuals from water treating chemicals remain in the building. The facility is currently open. However, if access control is desired, installation of three locks would be required.

There is no imminent danger at the X-701D building and no significant necessary safety devices appear to be missing. The facility contains no potential significant health hazards from biological conditions or animal intrusion, does not contain any equipment that requires safety inspections, and does not have an emergency evacuation alarm system. No fire hazards were identified and the facility does not have a sprinkler, fire detection, or alarm system. The X-701D building does have a fire extinguisher on the monthly inspection program.



The X-701D is posted as "Restricted Area, Radioactive Material Area, Fixed Contamination Area, TLD or PNAD required for entry" with one small "Contamination Area" located inside the building. There are no areas at the X-701D where access control appears to be inadequate, however, poor housekeeping may cause serious injuries during rapid evacuation. The X-701D has no operating emergency communications system.

Asbestos may be present in insulation surrounding recirculating heating water system (RHW) lines, although written asbestos surveys in the building conducted in 1988, 1989, and 1990 do not indicate the presence of asbestos (Report for Environmental Audit Supporting Transition of the Gaseous Diffusion Plants to USEC, 6/93). In the southwest corner of the building on a sanitary water line valve there is a small quantity of badly deteriorated insulation. This insulation could possibly contain asbestos. A section of steam line between the ground and the point where it enters the southwest corner of the building is wrapped with insulation that could contain asbestos.

The X-701D building has four tanks, none of which appear to be more than 500 gal. Tanks in the facility are currently not in use, one of the open top tanks is half full of solid sodium chloride and the other contains some miscellaneous debris. According to the facility custodian, the two closed tanks may contain some water. The tanks were used in a process to prepare deionized water for decontamination and chemical cleaning operations from 1955 to 1985 (Report for Environmental Audit Supporting Transition of the Gaseous Diffusion Plants to USEC, 6/93). All are in apparent poor condition and severely rusted. All four tanks are aboveground, none have secondary containment, and there are no monitoring systems for the tanks. Permits are not applicable to these tanks and the tanks have Confined Space Labels in view. A number of valves are tagged "out of service". No hazardous wastes associated with these tanks were noted.

Steam lines and steam heaters are inactive and were isolated due to a leak in the line just south of the facility. The steam heaters appear to be in fair condition. Sanitary water piping is active at least to the emergency shower. In other areas it appears to have either been capped or valved off. There is standing water on the facility floor, but the source could not be determined. A sanitary sewer line is connected to a washbasin, but no sanitary water is currently being provided. Steam, sanitary sewer, and sanitary water lines are underground until they enter the facility. At that point, all are aboveground. The emergency shower is inspected on a regular basis.

Hazardous substances including hydrochloric acid were stored in the facility. There is no evidence of any releases (Report for Environmental Audit Supporting Transition of the Gaseous Diffusion Plants to USEC, 6/93) and none were noted during the current assessment. One bottle of all-purpose cleaner and two plastic 1-gal jugs of scented deodorizer are stored in the facility. No solid wastes are known to have been generated or disposed at this facility (Report for Environmental Audit Supporting Transition of the Gaseous Diffusion Plants to USEC, 6/93). According to the facility custodian, none of the equipment in this facility was operated during the time it was leased to USEC.

Lead-based paints may be present (Report for Environmental Audit Supporting Transition of the Gaseous Diffusion Plants to USEC, 6/93). Numerous discarded electrical equipment, components, circuit boards, and parts were noted in the facility. The circuit boards and possibly some of the other components contain lead. There is also a possibility that mercury could be present in some of the electrical equipment and supplies stored in the facility, although no mercury was actually observed. A mercury thermometer was noted on the west wall near the north end of the building.

No PCB is known to be located here (Report for Environmental Audit Supporting Transition of the Gaseous Diffusion Plants to USEC, 6/93).

RHW is suspected to be contaminated with chromium (Report for Environmental Audit Supporting Transition of the Gaseous Diffusion Plants to USEC, 6/93).

According to USEC, there are no air emission sources in the X-701D that are registered with OEPA. A standard ventilation hood exhaust exists for general ventilation (Report for Environmental Audit Supporting Transition of the Gaseous Diffusion Plants to USEC, 6/93). This ventilation hood is still in place. The associated vent is located on the east side of the facility (Vent ID X-701D-B-1054).

A September 1996 issue notes that floor drains in the X-701D had not been plugged. This issue has since been closed by USEC (X96I08234, Finding PR-PTS-96-06516). A floor drain is located in the southeast corner of the building below the emergency shower and it appears to be in use. Available information indicates the floor drain in the X-701D discharges to the X-701C Neutralization Pit (this pit is being demolished and this line has been cut and capped). USEC has been requested to plug this drain and valve the water off to this facility. A washbasin discharges to the sanitary sewer. There is a circular-shaped sump in the southwest corner of the building where the sanitary water lines enter the building. Any stormwater discharges would be from the roof of the facility and would drain to a ditch that runs east and then north to a storm drain located near the corner of 18<sup>th</sup> Street and Jackson Avenue.

Poison ivy was found growing up the north side of this facility. Two vacuum cleaners are stored in the northeast corner of the facility inside a radiologically "Contaminated Area". There are signs of the roof leaking and the metal structure is rusting throughout. The doors are rusted and deteriorated, windows on the east and west side are broken, the roof is damaged on the west side and the interior paint has deteriorated. There is extensive cracking of the floor. Electrical equipment and services are unlabeled. Electrical conduits, fittings, switches and outlet boxes are corroded. Covers are missing on outlet boxes in several locations with plastic tied over switch plates to shield them from rain.

There are no chemicals located in the X-701D that appear to be stored in an unsafe condition, pose potential vulnerabilities by their intrinsic properties, or that have the potential to change over time due to the evaporation or introduction of water. No MSDSs are maintained at the X-701D.

The X-701D facility is not analyzed in depth in the AB documents. Hazardous inventory of materials are not present in significant amounts and are not analyzed, but there is sodium chloride in one of the tanks. TSRs pertain to the X-700 CAAS clustered building to which the X-701D is an associated slaved building. The USEC AB and DOE/BJC AB documents will be revised to recognize the transition of this facility from USEC to DOE. No unevaluated changes, unevaluated situations, or discovery USQD situations were identified. The transition from USEC to DOE will be recognized using the USQD process. The X-701D PHS (PHS-SM-701D-0014) has been completed for this building in its current inactive state and its Hazard Categorization is listed as "Other Industrial".

The following AB documents (see References) provide descriptive information and references. The TSR-related documents provide information on the CAAS. The CAAS is applicable in the area of the X-701D building because the X-701D is a slaved building to which radiation warning lights and evacuation horns are extended from the X-700 CAAS-clustered building.

The following additional references pertain to the CY 2001 de-leasing review of the X-701D.

Environmental Assessment Report for Environmental Audit Supporting Transition of the Gaseous Diffusion Plants to USEC, prepared by SAIC for DOE, 1993.

Drawing X-230D, Softened Water Distribution System Piping and Details, A. M. Kinney Inc for USAEC, Original was dated 6/17/54, Rev 0 was Rev 2 10/7/54, Rev 3 was dated 6/22/78.

There is no fissionable/fissile material in the facility, therefore, no fissile material operations are being performed (SAR-PORTS, USEC TSR, USEC SAR). The X-701D is slaved to the X-700 CAAS (Table 3.6.2-1, SAR-PORTS). The authorization basis documents itemized in the Facility Information Source Reference List verify that no fissile material operations are taking place in this facility and have probably never taken place in this facility.

#### **2.6.5 Current or Historical Maintenance Costs**

Minimal maintenance has been conducted on this facility since 1993. USEC has maintained the Radiation Alarm System and lights associated with the facility.

The estimated annual maintenance costs for this facility are:

Surveillance cost: monthly – 12/year x 8 MH/surveillance x \$70/hr. = \$6720.

It is recommended that one-time cost be incurred to disconnect building power (except RAD alarm system – USEC's), water, steam, etc., and lock up the building.

##### One-time deactivation cost estimate:

Engineering	40 MH
Electrical	32 MH
Mechanical	<u>32 MH</u>
	104 MH @ \$90/hr = \$9360

The facility should be placed in the DOE Deferred Maintenance Program and Early D&D List.

USEC shall maintain the radiation alarm system horns and lights.

#### **2.6.6 Identified Sources of Known or Potential Impacts**

There are no known sources or potential impacts associated with de-leasing of this facility.

#### **2.6.7 Data Evaluation from the Due Diligence Effort**

This facility has been inactive for nearly 16 years. Evidence from the walkdowns indicates that little or no maintenance has been performed and the facility is in a severe state of deterioration. There does not appear to be any imminent hazard associated with the facility. Considering current operations at PORTS and the current state of the facility, the potential to restart or reuse any of the equipment in this facility is highly unlikely. Therefore, the facility should remain in the current deactivated state with little or no maintenance afforded. The facility should be considered for early entry into the D&D program.

#### **2.6.8 Recommendation for De-Leasing the Facility**

It is our recommendation that this de-leasing be delayed until all punchlist items are complete and verified. It is recommended that a one-time cost be committed to the disconnection of electrical power to this facility; isolate and air-gap the water and sewer lines; isolate the RHW line; and abandon the facility until entry into the D&D program. The building has been inactive for 16 years and has deteriorated to the point where restart of the facility or installed equipment is unlikely.

USEC must remove the vacuum cleaners; discarded electrical equipment; electrical conduit, components, circuit boards and parts; any janitorial supplies or other products; plug the drain; valve-off water to the facility; and drain the water tanks.

## **2.7 X-720A MAINTENANCE AND STORES GAS MANIFOLD SHED**

### **2.7.1 Facility Description**

The X-720A Maintenance and Stores Gas Manifold Shed (see Fig. 2.13) is a 1000-ft<sup>2</sup> structure consisting of steel posts and a metal roof. The elevated facility was built in 1954 and sits on a concrete platform approximately 3-ft high. The facility is located immediately northeast of the X-720 Maintenance and Stores Building at plant coordinates N 9700, E 9300 in Quadrant II (see Fig. 2.14). The X-720A facility was used as a filling station for gas cylinders used throughout the Portsmouth plant. Propane cylinders provide flammable gas to the glass shop and the mass spectrometer area in the X-720A Maintenance and Stores Facility. The facility contains two gas manifolds. One system contains oxygen and the other contains hydrogen and propane. A fire extinguisher is located between the two gas manifold systems. The X-720A Gas Manifold Shed is an open-air structure and has no occupants.

### **2.7.2 Facility Photograph**



**Fig. 2.13 X-720A Maintenance and Stores Gas Manifold Shed looking south.**



### 2.7.3 Location Map for the Facility

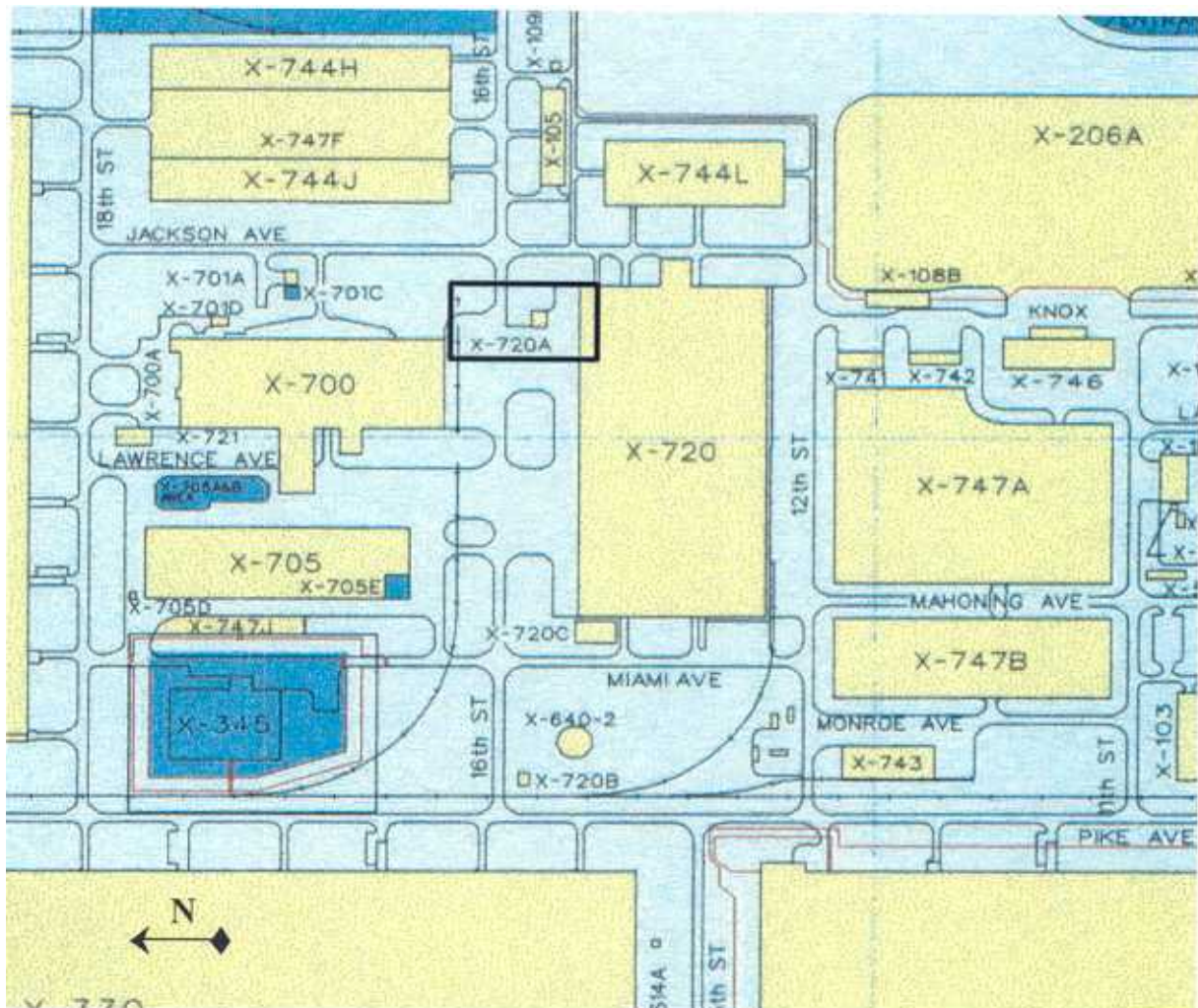


Fig. 2.14 Location of the X-720A Maintenance and Stores Gas Manifold Shed.

### 2.7.4 Summary of Current Conditions

The X-720A Maintenance and Stores Gas Manifold Shed contains an elevated concrete floor on which gas cylinders are located in manifolds. The west side manifold contains eight inactive oxygen cylinders located inside a small “Restricted Area, Radioactive Materials Area, TLD Required” area. The east side manifolds contain three inactive hydrogen cylinders and four active propane cylinders. Propane cylinders provide flammable gas to the glass shop and the mass spectrometer area in the X-720A Maintenance and Stores facility. This system is no longer required by USEC and the two gas manifold systems need to be de-pressurized and bled down. The X-720A includes a nominal 1000-ft<sup>2</sup> [37-ft by 26-ft] concrete floor of which 70% is in the manifold area [37-ft by 19-ft] and 30% is in the south-side loading dock area. A concrete wall separates the manifold areas. Associated steel columns and steel roof beams support the corrugated asbestos cement roof as noted in a 1952 facility drawing.



There is no imminent danger at the X-720A facility; however, hydrogen gas in underground lines can be a source of potential explosion. No significant necessary safety devices appear to be missing at the X-720A and there are no potential significant health hazards from biological conditions or animal intrusion. There are bird nests in the roof, which have the potential for viral diseases from bird droppings. The X-720A does not contain any equipment that requires safety inspections.

There is no observed posting for compressed gases. Overhead power lines run close to the structure. There is poor housekeeping in the general area. The nosing bar on the top step to the platform is loose and a rotting wooden ladder in the area requires disposal to preclude a possible injury from its use.

The X-720A facility does not have a fire-detection or alarm system and no fire hazards were identified. There is a fire extinguisher that is on the monthly inspection program. The X-720A does not have an emergency evacuation alarm system or an operating emergency communications system and there are no areas at the X-720A where access control appears to be inadequate.

Lead based paint and asbestos-containing material may be present. Receipt radiological surveys will be needed on the structure and any equipment/materials located on the slab before this facility can be de-leased. Additionally, the Restricted Area posting will need to be changed to Controlled Area.

There are no signs of the roof leaking at the X-720A and no known wastewater discharge other than stormwater runoff. There are no areas that appear to be subject to flooding or significant water leaks. The X-720A has no floor drains and there is no water supply to the shed.

There are no chemicals located in the X-720A that appear to be stored in an unsafe condition. Three rusted cans of WD-40 were noticed. No MSDSs are maintained at the X-720A.

The following AB documents (see References) provide descriptive information and references. The TSR-related documents provide information on the CAAS. The CAAS is not applicable in the immediate area of the X-720A building although the X-720 CAAS-clustered building radiation warning lights and evacuation horns are extended to the X-720C near the northwest corner of the X-720.

The following additional references pertain to the CY 2001 de-leasing review of the X-720A:

- Environmental Assessment Report for Environmental Audit Supporting Transition of the Gaseous Diffusion Plants to USEC, prepared by SAIC for DOE, 1993 [reference was used for nearby facilities].

Drawing X-720A-1-A, Gas Manifold Building Plans, Elevations & Details, Smith, Hinchman & Grylls, Inc. for USAEC, Original was approved 11/14/52, Rev 0 was As Built Rev 2-4/27/55, as noted on 9/7/62.

The X-720A facility is not analyzed in depth in the AB documents. Hazardous inventory of materials are not present in significant amounts and are not analyzed. Propane cylinders are considered as an industrial hazard. The X-720A facility is classified as Other Industrial. The X-720A PHS (PHS-SM-105-0011) has been completed for this building in its current inactive state and its Hazard Categorization is listed as "Other Industrial".

The USEC AB and DOE/BJC AB documents will be revised to recognize a transition from USEC to DOE and be recognized using the USQD process. TSRs pertain to the X-720 CAAS clustered building to which the X-720C is an associated slaved building. The TSRs do not pertain to the X-720A. No unevaluated changes were identified and no Discovery USQD situations were identified.

The flammable propane will be recognized in a de-leased facility PHS for the X-720A. Inactive hydrogen and oxygen cylinders are to be removed. Other chemicals were not observed.

#### 2.7.5 Current or Historical Maintenance Costs

The estimated annual maintenance costs for this facility are:

- Semi-annual walk down/documentation of facility condition.

2 Surveillances x 8 MH/surveillance x \$70/hr. = \$1120/year

The estimated one time cost to deactivate facility is:

Engineer/drafter	40 MH
Electrician	8 MH
Maintenance Mechanic	<u>16 MH</u>
	64 MH @ \$90/hr. = \$5760

#### 2.7.6 Identified Sources of Known or Potential Impacts

The X-720A facility was active during the Due Diligence Review in supplying propane to the various areas of the X-720 Maintenance and Stores Facility. However, this service is being discontinued. USEC has been requested to remove the hydrogen, oxygen, and propane compressed gas cylinders and provide for general cleanup of the area. Once these actions have been taken, there will be no known or potential impacts from the de-leasing of this facility.

#### 2.7.7 Data Evaluation from the Due Diligence Effort

The X-720A Gas Manifold Shed is inactive, however, several compressed gas cylinders of hydrogen, oxygen, and propane still remain connected to the supply manifolds. USEC has been requested to remove the 16 gas bottles, eight chairs, miscellaneous volleyball equipment and associated trash, and to perform general housekeeping in the area. USEC has also been requested to depressurize the gas manifold headers and provide for separation from the X-720A facility by flange spool piece removal to provide a visible air-gap. There is a fixed contamination area within the facility that requires evaluation and cleanup prior to return of the facility to DOE.

#### 2.7.8 Recommendation for De-Leasing the Facility

When USEC has completed the actions described above there will be no known restrictions for de-leasing of this facility. Due to the small size of the facility and its open-air construction, it is recommended that this facility be either placed in the Deferred Maintenance Program or D&D after GDP standby decision is made.

It is our recommendation that the de-leasing of this facility be delayed until all punchlist items are completed and verified.